

Hapsari S. (2016). A Descriptive Atudy of The Critical Thinking Skills of Social Science Junior High School. *Journal of Education and Learning*. Vol.10 (3) pp. 228-234.

## **A Descriptive Study of the Critical Thinking Skills of Social Science at Junior High School**

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### **Abstract**

The significance of the research is to seize a description of critical thinking students at a Junior High School at South Tangerang, Indonesia. It uses a descriptive statistic method to describe a more specified critical thinking student. Nowadays, learning process has been valued as non-critical thinking method to students. Whereas, by the critical thinking there will be the activity of thinking process to conclude. It has needed to be drilled since it had been early time to students to solve the problems. It gets social science critical thinking of 401 students. It is measured by the indicators of interpretation, analysis, evaluation, explanation, and inference. The results indicate the students skill in interpretation, analysis, explanation, and inference at a high level whereas it needs to create learning process of critical thinking students to do the evaluation at a medium level creating the hard worker and problem solver students.

**Keywords:** *critical thinking, social science, learning process*

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## Introduction

Human being holds the education to develop all their humanity to the positive goals. By education, they will seize a better thing. *Human being is the only creature that must be educated. By education we mean specifically care (maintenance, support), discipline (training) and instruction, together with formation* (Kant, 2007). Recently, most of our students have been influenced by *inherent* values to create a pride of *hedonism* and to cut religious values. For instance, a brutality death acts to students caused non-logical things. It is not only occurred in an area, but also somewhere in Indonesia. We realize that the person or groups sometimes face the problems of life demanding us to have critical thinking.

Since the years, human being has been described as the thinking animal (*animal educandum*) means they need to be educated to have an individual life task. It differentiates human being to the other creatures. It is no wonder that Rene Descartes (1596-1650) had said in his most famous statement because of his doubt, *I think so I have an existence (cogito ergo sum)* (Russell, 2007). In the thinking process, there will be a doubt. By the existence of a doubt in students, they will think how to solve the problem and take a decision.

Social Science is one of lessons to learn at school that takes a very important role to build a creative, innovative and critical human being. But, recently the Indonesian youth have less critical thinking. It causes the statement that the educators have not been able to develop the critical and creative thinking. Whereas it they are the main part of education.

The research of critical thinking skill by Alwasilah (2008) said that Indonesian Elementary – Secondary School Students have less critical thinking (83%), Collegian (71%). It is because of three causes, they are: Indonesian culture influence (71%), non expert teachers and lecturers in learning the critical thinking (71%) and the low qualified lecturers and collegians (25%). In accordance with the research we can take a conclusion that the low critical thinking student skill is caused by the teachers seldom develop it or in the other word it is caused by low habit to critical thinking. But they take a very important role of learning to develop critical thinking student skill (Warouw and friends, 2012).

Related to the statement above, we research the introduction by delivering critical thinking test of Social Science chapter economical activity to 20 students and the result is low critical thinking student skill. It is because of low qualified teacher to motivate critical thinking student. Therefore, we need to extract some main point of social science from theoretical based mindset to critical thinking based mindset so that the result is not only innovation but also renewal thinking and positive effect to the students in its development phase. Based on the statement that formulation of the problem is *how is the descriptive critical thinking student skill of Junior High School at Social Science learning?*

## Nature of Thinking

The activity of thinking becomes a form of human existence. With a thought, he will actualize the ideas he thinks. Even then, in the learning process. Generally, the teacher gives a few questions to the students so they think. Beyer defines thought as: "search for meaning and as a 'mental process by the which individuals make sense out of experience" (Banks & Clegg, 1990: 139). Beyer classifying thought process into two components: cognitive and metacognitive.

Piaget was the pioneer of cognitive theory. It uses the 'schema' to show how children actively construct their world. Santrock (Marsh, 2008: 17) explains that the schema is: "concept or framework that exists in an individual mind to organize and interpret information".

Anderson & Krathwohl (2010: 43) makes the categories in the cognitive process, namely: "remember, understand, apply, analyze, evaluate, and create". Given means taking a particular knowledge of long-term memory. Understanding is to construct meaning from instructional materials, including what is said, written and drawn by the teacher.

Thinking becomes an important issue in view of the complexity of the social problems that exist. Even today, students are required not only to think, but rather has a higher ability level thinking processes, such as: "conceptualizing, factual data, the hypothesizing about possible solutions, and generalizing to larger settings" (Banks & Clegg, 1990: 109). The essence of thought is also expressed Descartes, "I rightly conclude that my essence consists only in my being a thinking thing (or a substance whose whole essence or nature is merely thinking" (Malott, 2011: 14). From this view, emphasizing the ability to think before acting. By thinking, we will understand what we do.

## The Concept of the Critical Thinking

Firstly, the concept of critical thinking was introduced in nursery term in 1980's. Now, it is the most popular term of education system. Actually, people thought about it and analyzed how to teach it within almost a hundred years. Socrates began to learning approach in more than 2000 years ago, but

John Dewey, American philosopher, psychologist, and educator, extensively is regarded as ‘father’ of modern critical thinking culture. He called it as reflective thinking that is active consideration, *persistent*, and accurate of the faith or granted knowledge regarded to supported reasons and tendency continued conclusion (Fisher, 2008).

*Persistent* process of critical thinking means people must take a break and think to make a decision. Yet, the most important is the supported reasons. Therefore it needs a main element of critical thinking, reasoning. Critical thinker must collect the information with the accuracy and concern, accuracy to imprecision of potent, distortion or abuse. Human mind can determine the decision in according to obtained information. The critical thinker is described as *habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit* (Facione, 1990).

The critical thinking, basically, is thinking effectively to decide. One of contributors to critical thinking culture, Robert Ennis said that *reasonable and reflective thinking that is focused on deciding what to believe or do* (Ennis, 1995). It makes sense and effective can be meant by reorganizing it to higher lever action, thinking actively and carefully so that can be focus on it and make a decision to what we must trust or do. Therefore, it is not only thinking process but also making decision.

The critical thinking, basically, has plural meaning. It means to consider or to interpret, to analyze, to evaluate, to demand on detail explanation, conceptual-theoretic, methodology, logical category, or conclusion and consideration depending on where it is. (Supardan, 2015). It includes almost of logical thinking. It is a process indicating the importance of context where people assumption built by improving cognition context, *identifying and challenging assumptions, exploring and imagining alternatives*” (Brookfield, 1987). Identify and challenging assumption involve investigating, contemplating, and understanding the way ordinary people think involving moral, trust, values and idea.

It can be facilitated by important skilled question to motivate three kinds of reflection. First, content reflection, means ‘what’ of problem or problem content description, for instance, ‘what is my knowledge of critical thinking?’ second, reflection process means identifying ‘how’ of the problem, for instance, ‘how is my perception of critical thinking?’ third, reflection effort to solve ‘why’ of the problem, for instance, ‘why do I have to understand about critical thinking?’ Content and process have an ability to shift the trust.

### **Critical Thinking Skills**

Ennis (1995) shared six basic elements of critical thinking through approaching FRISCO (Focus, Reason, Inference, Situation, Clarity, and Overview). First step of critical thinking according to Ennis are:

1. Focus  
Introducing some situations, we must understand about what to discuss, main point, issue, what to ask or what to say. To hold it, we must focus on it because if we do not, we will waste the time. Ennis define it as “the focus is ordinarily the conclusion”.
2. Reasons  
Supporting the conclusion, we must have supporting reasons and decide the acceptable reasons. This is accomplished before we value the argument.
3. Inference  
Assessing the inference is different to assessing reason. We must assess the acceptable and sufficient to make a decision. Yet, inference gets ambiguity, more than one meaning, as Ennis said “Sometimes the word inference is used to mean conclusion, so that the conclusion of an argument would then be an inference”.
4. Situation  
When thinking focuses on trust and takes a decision, needs to supporting situation that includes involving other people, other side. Environment is in it, both physical and social environment. It is not only thinking activity but also the meaning of what to hold and to assess by the thinker.
5. Clarity  
The most important thing in our writing and speech is clarity of what we said. We must understand what to say and the other people understand to what we say. By delivering clear and explicit message we will avoid ambiguity. And clarity is the most important element in FRISCO
6. Overview  
In the overview, the thinker verifies about what to think.

### **The Urgency of Critical Thinking in Learning Social Science**

Critical thinking education is divided into three points, namely: “(1) teaching for thinking, (2) teaching of thinking, (3) teaching about thinking” (Costa in Alwasilah, 2008). Teaching for thinking is teacher and administrators effort to create conducive situation so that the students can think critically as through curriculum and learning. Teaching of thinking is teacher activity to create a critical thinking student through learning method choice, to create student involve in discussion actively. Teacher can promote the contextual problems and students can have debate each other. Teaching about thinking is about critical thinking.

In the contemporary education term, ideas are discussed through critical thinking. The urgency of critical thinking to supporters of critical thinking education is: First, they consider the process is rationality idealism. The education significance can be analyzed equally means it is good thought so that it is a normative. Second, critical thinking is to organize students being mature in self-direction. Third, critical thinking is rational culture of education activity.

In the learning of social science, teacher can drill the critical thinking skills, one of them is brainstorming technique, and the steps are: First, teacher can determine main topic to motivate student think. Second, teacher proposes next question, why has the idea not applied yet? Third, teacher guides students to think about possible way to solve the problem. Fourth, the teacher demands student to share the answers possibility so that it's applied to the previous problem. Fifth, finally the student demanded to take a decision of first step in solving a problem (Sapriya, 2008).

### **Method**

The research applies descriptive statistic method to describe or to explain the object researched. The data collection uses the critical thinking test delivery about the economical activity based on the indicators of interpretation, analysis, evaluation, and inference. The instrument used is composed through delivering the deviation score 1 – 5, the detail as follow:

Table 1. Values Score

Score	Values	Criteria
1	<45	Very Low
2	45-59	Low
3	60-79	Medium
4	80-89	High
5	90-100	Very High

The higher score delivered to the students, the higher perception of students to critical thinking skill they have. Population of the research is the second year students of State Junior High School in South Tangerang, Indonesia. It has 6753 students. The writer selects Isaac and Michael formulation  $\alpha = 5\%$  and the result of sampling is 401 students.

### **Result and Discussion**

The correspondent composition is students of State Junior High School in South Tangerang, Indonesia based on their gender. The detail as follows:

Table 2. Correspondent Distribution based on the gender

Gender	Frequency(F)	Percentage (%)
Male	160	39,91
Female	241	60,09
Total	401	100

In accordance with the above table, it shows that the majority of the research correspondent or 60,09% are female, 39,91% are male. The correspondent composition based on the age as follows:

Table 3. Correspondent Distribution Based on the Age

Ages	Frequencies (F)	Percentage (%)
12 years old	3	0,75
13 years old	395	98,50
14 years old	3	0,75
Total	401	100

Even though the second year student can be predicted, but it is not the same age of correspondent. Table 3 shows that the research correspondent more in 13 years old, they are 98,50% can be predicted that they got the education at the elementary school when they were 6 years old. Correspondent whose 12 years old are 0,75% can be predicted that they got the education at the elementary school when they were 5 years old. Some schools in South Tangerang open for under 6 years old students by the condition they can read, write, and count. Whereas 14 years old correspondents are 0,75% can be predicted that they have got the education at the elementary school when they were 7 years old.

The critical thinking student skill can be measured by the indicators developed by California Critical thinking Skills Test namely interpretation, analysis, evaluation, explanation and inference. The indicators are equaled to Indonesian Junior High School Students under the main discussion is the influence of strategic location to economical activities, transportation, communications. In accordance with correspondent answer, the average of critical thinking student skill is visualized at table 4 below:

Table 4. The Critical Thinking Skills of State Junior High at South Tangerang

Skills Type	Score	Criteria
Interpretation	4	High
Analysis	4	High
Evaluation	3	Medium
Explanation	4	High
Inference	4	High

Table 4 indicates that the average skill of students have a high *interpretation*. Interpretation skill is the information transfer skill from one form to another; paraphrase, describe, translate; and clarify (Anderson, Krathwohl, 2010). To measure this type of skill, we need to two description tests should be accomplished by the students. First, students should interpret two illustrations, they are crowded mall illustration and silent store illustration, and then they are besought to correlate the two locations to economical activity. Crowded Mall Illustration indicates strategic location and silent store indicate less strategic location. Choosing the strategic location is very important in economical activity because it is convenient for the citizen, close to facilities, easily obtained supply, and so forth. Whereas, in the second description test, we present the economical activity scheme to them (students) consists of production, distribution, and consumption. In this type of skill, they can interpret the illustration and give the reason about the strategic location choice for economical activity.

The average skill of students in *analysis* is high. *Analysis* is an activity involving fragmenting process of subject matter to small sub and determine how the correlation between sub and every sub and all structure. Analyzing involves cognitive processes of distinguishing, organizing, and distributing (Anderson; Krathwohl, 2010). Measuring the *analysis* skill, the students are besought to agglomerate some activities involving production and distribution, and distinguish two economical activities.

The third skill of critical thinking is *evaluation*. In this type of skill, the average skill of State Junior High School Students at South Tangerang, Indonesia is medium. Evaluation is a making decision skill based on the criteria and standard (Anderson; Krathwohl, 2010). In this type of skill, we need to two tests should be accomplished to the students. First test, they are besought to share the opinion of Indonesia Geostrategic superiority and its impact to economical activity. Indonesia Geostrategic superiority is between two continents, Asia and Australia, and it is between two oceans, Indian and Pacific Ocean so that Asian and Australian Trading Traffic always passes through Indonesia. Geostrategic effects to trading development in Indonesia so that economical activity of Indonesia involves production, distribution and consumption activity. By ongoing of three economical activities, it will push ahead economic growth in Indonesia. To this case, some students have not understood about

the term of *geostrategic* yet. The common term for them is geographical location, whereas the two terms are distinguish. To this case, Social Science teacher needs to introduce the terms.

Second test is about transportation system of city transport. The teacher gives a question about advantages and disadvantages of city transport compare to other land transportation, and solve the crowded existence of it. To the second test, in majority, students can answer it because it is very contextual because daily traffic jam is always happened at South Tangerang Indonesia.

The fourth skill of critical thinking is *explanation*. It explain about the reason of an occurrence happened, whereas to solve the problem, the students are besought to diagnose the mistaken of multifunction system (Anderson; Krathwohl, 2010). In this type of skill, the students have to explain about Java Island that has most complete land transportation facilities in Indonesia.

The average skill of students in *explanation* is high, means that the average students at State Junior High School at South Tangerang can explain that the Java Island has complete land transportation because it populous. The populous has varies activities and needs. Besides that, nature condition of Java Island is diverse so it causes the diverse activities of society. Some society of Java Island comes from the other island in Indonesia, so that why transportation facility is diverse.

The fifth skill of critical thinking is *inference*. It is a conclusion reached on the basis of knowledge or fact and finding system process of examples (Anderson; Krathwohl, 2010). Measuring the skill of students in *inference*, the teacher presents some illustration of students eating in the cafeteria and a certain person buying a drink. Based on the illustration, the students are besought to define about the consumption activity. Even if in majority the skill of students in *inference* is high, yet some students define the consumption activity is only feeding/eating activity.

The detail information of critical thinking student at a qualified and a non-qualified school comparison is presented as follows:

Table 5. Critical Thinking at a qualified and a non-qualified school

Types of Skill	A Qualified School Score	Criteria	A non-Qualified School Score	Criteria
Interpretation	4	High	4	High
Analysis	4	High	4	High
Evaluation	4	High	3	Medium
Explanation	4	High	3	Medium
Inference	4	High	4	High

In the table 5, the distinguishing of critical thinking at a qualified school and a non-qualified school is evaluation and explanation skill. The qualified school gets a high score and the non-qualified school gets a medium score. At the other skill both gets the equal score, high score.

## Conclusion

The Critical thinking is a human skill of thought with the trusted argument. Therefore, it has been the teacher responsibility to improve the critical thinking student skill in Social Science learning especially. The teacher must identify some basic skills of learning and teach the exact system to the students to apply it in a real situation. By The critical thinking, the students have a skill to solve the problem of social life, for instance. They are a future youth needed to be drilled as young as possible in the critical thinking to care about the social problem. It is an individual responsibility indicating a *good citizenship*.

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